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Atty Dkt. No.: YAMA-001CON9  
USSN: 09/942,032

#### REMARKS

The Examiner has not indicated whether the amendments proposed in the Applicant's response mailed April 11, 2003 have been entered. Accordingly, since it has not been indicated otherwise, the Applicant assumes that all of the amendments to the claims and specification proposed in that paper were entered. The Applicant requests the Examiner to indicate such in the next communication.

In view of the above amendments and the following remarks, the Examiner is respectfully requested to withdraw the rejections and allow Claims 40-41 and 52-53, the only claims pending in this application.

The specification has been amended to specify the relationship between each of the related applications referred to in the specification.

Claims 52 - 68 have been added as new. Support for these newly added claims may be found in the specification, e.g., at page 5, line 10 to page 6, line 34; page 12, line 21 to page 20, line 11; page 16, lines 26-30; pages 17-18; page 58, lines 30-34; page 61, line 28 to page 62, line 2; page 70, lines 13-24; page 79 line 28 to page 80 line 22; and pages 87-95.

No new matter has been added.

As no new matter has been added by the above amendments, the Applicants respectfully request the entry thereof.

#### REJECTION UNDER 35 U.S.C. §102(b)

Claims 40 and 41 were rejected under 35 U.S.C. §102(b) as being anticipated by JP55-40723. In making this rejection, the Examiner stated this reference discloses a composition that teaches all of the limitations of the claims. However, the Applicant respectfully submits that JP55-40723 does not teach all of the claimed limitations of the claimed invention.

For example, the subject claims specify an assimilable carbon energy skeleton energy component. In general, an assimilable carbon energy skeleton energy component, as described in the specification is an organic compound that is assimilable by plants to provide energy required by metabolism of the plant and to provide carbon skeleton precursors for synthesis of proteins and other plant components (see for example page 20, lines 15-31 and originally filed claim 1).

The Examiner stated that the reference teaches an assimilable carbon skeleton energy component and refers to the "medium" of the abstract written in English as the assimilable carbon skeleton energy component. However, the Applicant respectfully submits that this reference does not teach that the "medium" is an assimilable carbon skeleton energy component and in fact this "medium" is not

Any Dkt. No.: YAMA-001CON9  
USPN: 09/042,032

described at all in JP55-40723, let alone an assimilable carbon skeleton energy component or even a carbon medium of any kind.

Accordingly, for at least the reason that JP55-40723 does not teach an assimilable carbon skeleton energy component and such is claimed in independent Claim 40, and Claim 41 by virtue of its dependency from Claim 40, JP55-40723 cannot anticipate Claims 40 and 41. As such, the Applicant respectfully requests that this rejection be withdrawn.

Claim 40 was rejected under 35 U.S.C. §102(b) as being anticipated Cunningham (US 5,340,376). As noted above, Claim 40 specifies a method of treating soil to promote the growth of plants using a composition that includes an assimilable carbon skeleton energy component. However, Cunningham does not teach an assimilable carbon skeleton energy component.

The Examiner asserted that Cunningham teaches linseed oil and soybean oil which, the Examiner asserted, are assimilable carbon skeleton energy components. However, the Applicant respectfully disagrees with this assertion.

Specifically, Cunningham teaches controlled-release nutrient compositions which include a controlled-release coating such that the compositions of Cunningham include solid material of various components surrounded by a release rate-controlling coating. (col. 6, lines 39-45). Cunningham teaches that this release rate-controlling coating may be "a resin formed from linseed oil and dicyclopentadiene (DCPD) copolymerized and bodied." (col. 6, lines 49-52). Cunningham also teaches that "Variation on the linseed oil/dicyclopentadiene system replaces part of the linseed oil with soybean oil plus maleic acid anhydride and pentaerythritol." (col. 6 (lines 63-65). Cunningham further describes that "[t]his coating will most likely be linseed oil/DCPD copolymerized resin and will be applied to the granules and then heat cured onto the granules' surface creating a controlled-release film." (col. 7, lines 24-27). As noted above, the use of these components (linseed oil and soybean oil) in Cunningham is to provide a controlled-release coating, not an energy source.

It is the Applicants assertion that linseed oil and soybean oil are not assimilable carbon skeleton energy components as these oils have extremely low water solubility rates and thus extremely slow assimilability rates. Because of these extremely low water solubility rates and assimilability rates, these oils do not have carbon readily available for assimilation by a plant as energy sources, i.e., they are not in a bioavailable form for plants. As such, linseed oil and soybean oil are not assimilable carbon skeleton energy components as they do not readily provide carbon to a plant in a form that may be used

Atty Dkt. No.: YAMA-001CON9  
USSN: 09/942,032

by the plant as an effective energy source. Accordingly, these characteristics, i.e., low water solubility and slow assimilability, preclude linseed oil and soybean oil from being effective carbon skeleton energy sources for plants and in fact Cunningham does not employ these components for such a function, as noted above. Instead, Cunningham employs linseed oil and soybean oil in controlled-release resins- an application in which low water solubility is an advantageous property and assimilation by the plant is not necessary. Accordingly, Cunningham does not anticipate the pending claims as Cunningham does not teach an assimilable carbon skeleton energy component.

Furthermore, the Applicant respectfully submits that Cunningham also fails to teach a complexing agent, as claimed in the pending claims. As noted in the specification, a complexing agent is analogous to a chelating agent (see for example page 22, lines 3-9; page 8, line 32). However, Cunningham does not teach such a complexing agent (i.e., chelating agent). The Examiner asserted that calcium of calcium phosphate taught in Cunningham is a complexing agent. However, the Applicant respectfully submits that calcium phosphate is insoluble and thus does not provide the free calcium as asserted by the Examiner for use as a complexing agent. In other words, the insolubility of calcium phosphate precludes it from acting as a complexing agent because calcium phosphate itself is not a complexing agent and its insolubility precludes it from providing the free calcium as asserted by the Examiner. Accordingly, Cunningham does not anticipate the pending claims as Cunningham does not teach a complexing agent.

For at least the reasons described above, the Applicant respectfully request the rejection of Claim 40 under 35 U.S.C. §102(b) as being anticipated Cunningham be withdrawn.

#### OBVIOUSNESS UNDER 35 U.S.C. § 103

Claim 41 was rejected under 35 U.S.C. §103(a) as being unpatentable over Cunningham (US 5,340,376) in view of JP55-38834.

The M.P.E.P. provides clear guidance on the requirements of a *prima facie* case of obviousness:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or

Atty Dkt. No.: YAMA-001CON9  
USSN: 09/942,032

references when combined) must teach or suggest all the claim limitations.

(M.P.E.P. § 2142) (Emphasis added)

Thus, the cited reference or combination of references must teach or suggest all of the limitations of the claimed invention for the claimed invention to be rendered obvious in view of the reference or combination of references. As described above, Claim 41 specifies an assimilable carbon skeleton energy component. Accordingly, Cunningham in view of JP55-38834 must teach or suggest an assimilable carbon skeleton energy component in order to make the claim obvious. However, Cunningham in view of JP55-38834 fails to make such a teaching or suggestion as described below.

As noted above, Cunningham teaches controlled-release microbe nutrients for bioremediation. In general, Cunningham teaches macronutrients (col. 5), micronutrients (col. 5), vitamins and buffers (col. 6), controlled-release coating (col. 6) and controlled release nutrients (col. 7). However, Cunningham does not teach or even suggest an assimilable carbon skeleton energy component. As described above, linseed oil and soybean oil cited by the Examiner as assimilable carbon skeleton energy components are, in fact, not assimilable carbon skeleton energy components.

JP55-38834 fails to make-up for the deficiency of Cunningham as nowhere is an assimilable carbon skeleton energy component taught or even suggested in JP55-38834. The Abstract of this reference does describe components such as vermiculite, limestone powder, perlite, zeolite, diatomaceous earth and rock powder to form a solid, but these components are not assimilable carbon skeleton energy components. For example, perlite is generic for siliceous rock, zeolite is a framework of interlocking tetrahedrons of  $\text{SiO}_4$  and  $\text{AlO}_4$  and diatomaceous earth is  $\text{SiO}_4$  and water.

Accordingly, for at least the reason that Cunningham and JP55-38834 fail to teach or suggest an assimilable carbon skeleton energy component and such is claimed in Claim 41, a proper *prima facie* case of obviousness cannot be made. As such, the Applicant respectfully requests that this rejection be withdrawn.

Att'y Dkt. No.: YAMA-001CON9  
USSN: 09/942,032

**CONCLUSION**

In view of the remarks, this application is considered to be in good and proper form for allowance and the Examiner is respectfully requested to pass this application to issue.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-0815, reference no. YAMA001CON9.

Respectfully submitted,  
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